

Macdonald College Library MAR 21 1978

The macdonald Journal

MARCH 1978

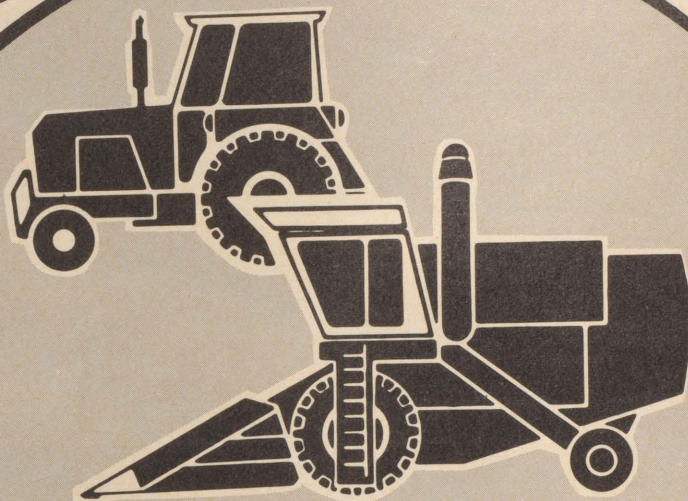


The Library
Box 256
Macdonald College, Que.
HOA 1C0

MJ

international salon of farm machinery

and poultry industries



America's most prestigious presentation of its kind. Thousands of products will be displayed under one roof: tractors, tillage and seeding machines, haying and dairy equipment, lawn and garden equipment, farm buildings, etc.

The Salon is the place par excellence for farm producers to take a closer look, compare and make a sound choice of farm machines and equipment.

REMEMBER: THE SALON IS THE
AGRICULTURAL EVENT OF
THE YEAR, DON'T MISS IT!

MONTREAL,

place BONAVENTURE

APRIL 6-7-8-9, 1978

FROM 10:00 to 18:00



THE macdonald JOURNAL

MARCH 1978

Volume 39, No. 3
March, 1978

Editor: Martin van Lierop
Managing Editor: Hazel M. Clarke
Contributing Editors:
Don Feeny
Macdonald Reports
Don Pickup
B. Roy, Agronome,
Information Division,
Ministry of Agriculture of Quebec
Business Manager:
Martin van Lierop

The Macdonald Journal is published every month by Macdonald College.

Material in this issue may be reprinted editorially without permission; however, credit to the Macdonald Journal would be appreciated. Address all inquiries re editorial matter, advertising, and subscriptions to: The Editor, Box 237, Extension Department, Macdonald College, Quebec, H0A 1C0. Second class mail registration number 0463.

Subscription rates are \$3.00 for one year, \$5.00 for two years, and \$7.00 for three years in Canada. Outside Canada — \$7.00 for two years.

Printed by Harpell's Press Cooperative, Gardenvale, Quebec.

In This Issue

Cover: These cattle are normally in the barn in the background. When this photo was taken, their half of the barn was being cleaned. For article on beef see page 6.

Guest Editorial	2
Forage Mixtures	3
Beef . . . in General	6
Feedlots . . . in Particular	8
Preparing Drainage Maps with the Help of Computers	11
The Family Farm	14
This Month with the QWI	17

Journal Jottings

I have had nearly as many problems getting the beef article in this issue into print as the beef men have had in recent years just trying to survive. Fortunately, the prospects for the beef industry look brighter. It is seldom that we go off campus for an article, but in this instance I felt that a trip to Farnham would give us a good beef story. We could get a general overview of the beef situation and take a close look at feedlots which are relatively new to the Quebec scene and as yet few in number. Thus, early in November tentative plans were made for the article. Looking back it seems to me that nearly every snowstorm that we have had coincided with the date set and therefore the journey would be postponed for a week or so. Finally in late January, two days

after a storm, we made it to Farnham. It was a beautiful, sunny day and I thoroughly enjoyed the familization process of seeing over the feedlot operation. I happily aimed the camera in all directions, visualizing perfect cover and inside-the-magazine illustrations. Returning to the warmth of the farm kitchen, I set up the tape recorder and reached for the "beef" file containing all the carefully thought out questions. Not to be found; they were sitting on the desk back at Macdonald. Fortunately, after a few basic background questions, the phone rang and during that time I was able to dig back in my memory and jot down a new set of questions. The rest of the day went exceptionally well.

Back at the office I sent the film off for developing and set to to

turn the interview into articles. The bad weather and lost questions were things of the past — the rest was smooth sailing, or so I thought. It seems that the film didn't quite catch on the sprocket holes and all the clicking was in vain — there wasn't a single shot. Go without or try again? As you can see we tried again and, in spite of one or two minor problems, all went well. At this point I even call being caught in a two-hour traffic tie-up on the way home minor. As I write this I'm being very optimistic because I still don't know how the pictures have turned out nor how all will fit into the magazine. What I do know is that I still feel the trip to Farnham for an article on beef was well worth it. Pictures or no, I hope you agree.

Hazel M. Clarke

Guest Editorial

Faces of objects in nature often relate much more to one's interpretation than to their factual appearance. Likewise Macdonald College takes diverse faces according to your ethnic background, your education, or simply your love for life or for the place itself.

Macdonald College reminds me of one isolated town located in a remote hilly area where a traveller inquired one day, "What's this town called?". "Depends," replied the native. "Depends on what?" asked the traveller. "Depends on whether you have to live in this rundown, decrepit, dirty dump or if you are a flatlander tourist attracted by its picturesque scenery and quaint old world charms." Looking 500 feet away the traveller asked again, "What is all that stuff lying on the ground?" "Depends," replied the native once more. "Depends on what?" "Depends on whether you are a garbage man who will collect it for the dump or whether you are a gentleman connoisseur who will collect it as an antique."

In the Fall of 1941 Macdonald College presented very special faces to me, a francophone Canadian et Quebecois par dessus le marché, a Roman Catholic, an undisciplined and rebellious student, who had become unacceptable to francophone universities. Like the patterns of a kaleidoscope, the faces of Macdonald College have changed at many turns of my life mainly because of my interpretation of their meaning. The faces of Macdonald College that I have seen, and still remember, probably differ from the ones you see.

Many years ago in the thirties, long before I came to Macdonald College as a student, long before the construction of Highway no. 20, I used to visit relatives living in Ste-Anne, with my parents. Macdonald College was then to me a land of mystery, a land of giants.

The College appeared at night, as a dimly lit, completely independent domain of grass and trees with austere looking Scottish castles, inhabited by people who spoke a foreign and mysterious language.

Those were the days when I wondered why so many people were advertising, with misspelled words the fact that their land was very dirty by putting up signs reading "for sale".

My parents were deeply shocked when I informed them in the Spring of 1941 that I could not return to study agriculture in a francophone university of Quebec, mainly because I had behaved as a student slightly ahead of his time, at l'Institut Agricole d'Oka of l'Université de Montréal. My greatest luck at that time, was that Brad Walsh, the Registrar, could speak French. I was accepted here to repeat my first year on condition that I should never create trouble, a condition which completely escaped George Dion's astuteness when he hired me in 1964.

Macdonald College became overnight a land of study and culture, a land of jolly good living and a land of training. It was indeed a sudden change from Molières to Chaucer, from vache to cow, from "tabarnak" to "What the heck". I learned English while rooming with the only confrère who would accept me, an immigrant, a German Jew. The class of 45, first to oppose the practice of Freshmen initiation, bashed its way through partition walls in Brittain Hall and on the upper floor of the main building and reached fame when it tipped the clock off its hooks onto the floor of the entrance hall of the Main Building in the Spring of 1945. The war years converted Macdonald College into a training camp for the C.W.A.C.

I returned to Macdonald College in 1964, to the land of teaching, learning, and research, to the land of intense communication, but mostly to the land of contradictions. I still enjoy the challenge of innovating and creating new courses tailored to the present conditions of our society. Courses which we sell as an edible commodity like sausages to our customers, the students. It is almost a land of fantasy when one wants to find long-term financial support for a research program. Yet, the image projected by Macdonald College into the social environment of

Quebec, Canada, and the world still reflects the stubborn dedication of staff, students and alumni to communicate to outsiders the ideals set up by a stubborn founder. A land of contradictions; Macdonald College has been, from its very first days.

Macdonald College has a greater reputation in the world than within the university. Its Faculty of Agriculture, with the highest increase in enrolment of all Faculties of McGill, will soon move into smaller accommodation, while the opposite takes place for some departments on the Montreal campus.

Macdonald College cherishes the fostering of life close to nature, but will soon move into a sealed and canned artificial environment. It is the old man shedding old clothes for new ones, while a young person acquires pride in wearing the supposed rags as valuable pieces of antique. God bless the designers of the new environment. As Grant Allen used to say, "cockroaches think that kitchens were created to provide a convenient home for cockroaches."

Macdonald College flourishes as an English institution in a strongly francophonizing Quebec, because of an ever-increasing percentage of francophone students; students who are denied the right to learn English in the early stage of their study.

As truly as the anvil outlasts the hammer, Macdonald College will survive, and should not be afraid to expand, because any individual wrapped up in himself makes a pretty small package. Let us hurry to confess, as usual, our little faults, in order to convince others that we do not have great ones and to remain optimists; after all without optimists the pessimists would not know how happy they are not.

Prof. J. F. G. Millette,
Department of Renewable
Resources.

(Extracts from a presentation given on Founder's Day, February 9, 1978, at Macdonald College.)

FORAGE MIXTURES



by Professor B. Coulman,
Department of Plant Science

There are eight perennial forage species which are recommended for use in Quebec. These include one legume species; alfalfa, red clover, white clover, and birdsfoot trefoil and the grass species; timothy, brome grass, orchardgrass, and reed canarygrass. High yielding, adapted varieties of all these species are available.

Although these species are all productive in pure stands, they are usually not planted alone, but rather in mixtures with other species. A recent survey of forage production on farms in western Quebec showed that 85 per cent of hay and pasture fields were seeded to forage mixtures. This article will focus on the advantages and disadvantages of using forage mixtures as opposed to pure seedings. It will also look at some of the factors to be considered in the choice of a forage mixture.

Why use a mixture?

Forage mixtures have a number of advantages over seedings of a single forage species:

There is a better chance of obtaining a good stand. Conditions

(either environmental or management) that may lead to a failure in establishment do not affect all species in the same manner. For example, dry conditions following germination would do more harm to timothy or brome grass seedlings than to alfalfa seedlings. Since we cannot predict weather conditions in advance, a mixture gives us some insurance against a complete seeding failure.

2) A grass-legume mixture, when cut for hay, will cure at a faster rate than a legume species grown alone. A legume such as red clover contains a high proportion of wet leaf material which can compact when cut. This leads to a reduced rate of drying and can result in substantial spoilage. The presence of a grass, which contains less water at harvest, will provide "bulk" to the mixture and increase the rate of curing.

3) The presence of a grass in a pasture containing alfalfa or a clover species will help prevent the occurrence of bloat. The grass "dilutes" the amount of the bloating factor (soluble protein) contained in the legume that is ingested by the ruminant animal.

4) The presence of a grass may help to prevent the lodging of a

legume species. Birdsfoot trefoil tends to "fall over" as it grows and if harvested for hay, much material may be left uncut. If a tall, erect species like timothy is planted with birdsfoot trefoil, it will help "hold up" the trefoil.

5) A mixture of species also provides better stand insurance. In general, legumes are less winter-hardy than grasses. If the legume in a mixture is winterkilled, a stand of grass will remain for feeding purposes.

6) A grass-legume mixture may aid in the prevention of soil erosion. The legume with its long tap root may not have enough fibrous roots to prevent erosion in a sandy soil. A grass, however, has a mass of shallow fibrous roots.

7) A grass-legume mixture is an excellent soil improver. Grass roots contribute much organic matter to the upper soil layer, while the legume tap root can penetrate deep in the soil, thus improving sub-surface drainage.

What are the disadvantages of mixtures?

1) There are problems in weed control in the establishment year. The presence of a broad-leaf

legume and a grass species reduces the number of herbicides that can be used.

2) In a pasture, differential palatability of the species in a mixture can cause problems in that the preferred species may be severely overgrazed. By the time animals get around to grazing the less palatable species, it may be too mature and of poor quality.

3) A competitive species may quickly eliminate less competitive components of the mixture. Red clover, which is very vigorous in the establishment year, can markedly reduce the establishment of birdsfoot trefoil due to shading. Birdsfoot trefoil, which has very poor seedling vigour, should not be mixed with other legume species.

4) The differential maturity of certain species makes it difficult to decide the optimum time to cut a mixture. At the proper stage of cutting for one species, others may be too young or too mature.

In general, mixtures are more difficult to manage than pure seedings. Instead of considering the optimum management for one species, one has to take into account management factors for two or more species.

Selection of Species for Mixtures

There are several considerations in the choice of species for a forage mixture:

1) The first and perhaps most important consideration is the purpose of the forage seeding. First of all, is the forage to be used for pasture or hay/silage production? Orchardgrass, ladino clover, and birdsfoot trefoil are good species for pasture. Alfalfa can also be a productive pasture species if

properly managed, but is not recommended in Quebec mainly due to problems with bloat.

It must also be decided whether a long-term stand of forage is desired or just a two- or three-year stand to fit into a farm rotation. Red clover can be a very productive species in the year of seeding and the year following seeding, but contributes very little to the productivity of the stand thereafter. Thus, red clover is a very useful species for a short-term seeding. Alfalfa, although it is more persistent, is also useful in short-term stands because of its high productivity.

Timothy, brome grass, reed canarygrass, birdsfoot trefoil and also alfalfa, if managed well, can be very productive over a longer period of time (i.e. four years or longer). Ladino clover and orchardgrass are somewhat shorter lived than these more persistent species due to the occurrence of winterkilling.

2) When one has determined the species that will suit the purpose of the seeding, it must be decided which of these species will be adapted to the area to be planted. One must be aware of the drainage of the area, the pH of the soil, and whether the area is subject to prolonged periods of drought. Table 1 shows the relative tolerances of the recommended species to various climate and soil factors.

Although alfalfa will not tolerate acidity, it can be grown on an acid soil that has been limed to bring the pH up to 6.5-7.0.

3) As mentioned previously, the compatibility of the species must also be considered before deciding on the mixture. The first consideration is the competitiveness of the species in the seeding year. Species such as reed canarygrass and birdsfoot trefoil have very poor seedling vigour and thus produce little forage in the seeding year. One would think that red clover would be a good species to mix with reed canarygrass or trefoil, because it would produce well in the first year while the others would provide long-term production. Unfortunately, red clover is so competitive in the seeding year that it can markedly reduce the stand of a species like birdsfoot trefoil (Table 2).

Another consideration is the maturity of the various species. For example, consider a mixture of timothy, which is a late-maturing grass, with an early-maturing variety of alfalfa such as Saranac. If the alfalfa is cut at the early bloom stage (which is the best stage for cutting), the timothy will not have even headed. At this stage, food reserves are low in timothy, so the regrowth will be very slow. After several cuts, the timothy will be weakened and it may disappear from the stand. It is

Table 1. Tolerance of forage species to certain conditions of soil and climate.

Species	Drought	Poor drainage	pH range
Timothy.....	3	1-2	5.5 — 7.5
Brome grass.....	1	2	5.5 — 7.5
Orchardgrass.....	2	3	5.5 — 7.5
Reed canarygrass.....	2	1	5.5 — 7.5
Alfalfa.....	1	3	6.5 — 7.5
Red clover.....	3	2	6.0 — 7.0
Ladino clover.....	3	2	6.0 — 7.0
Birdsfoot trefoil.....	2	1	5.5 — 7.5

1 = tolerant; 2 = somewhat tolerant; 3 = intolerant



It is now known that the simpler mixtures, made up of two or three species, are more productive and easier to manage than mixtures containing many species. Many seed companies, however, still sell mixtures containing five or six species. Often these mixtures contain alsike clover, a short-lived unproductive legume that is not recommended in Quebec. It is strongly recommended that, after a producer has decided on a mixture to use, he should buy certified seed of recommended varieties of each species and mix them himself.

Mixtures recommended for the province of Quebec are listed in the publication "Herbages" by the Conseil des Producteurs Végétales du Québec. Rates of seeding of the various species to be used can also be obtained from this publication.

Conclusion

Perennial forage crops are the backbone of most beef and dairy enterprises in Quebec. Selection of the proper forage mixture is essential, if a consistent supply of high quality feed is to be available. Using certified seed of recommended varieties for these mixtures may be slightly more expensive, but it certainly pays off in a productive and persistent forage stand.

References:

- "Herbages", Agdex 120/20. Conseil des productions végétales du Québec. Ministère de l'Agriculture du Québec. Novembre 1977.
 Heath, M. E., Metcalfe, D. S. and Barnes, R. F. 1973. **Forages: The Science of Grassland Agriculture**. Iowa State University Press, Ames, Iowa.
 Prince, F. S. 1956. **Grassland Farming in the Humid Northeast**. Van Nostrand Co. Toronto.

Table 2. Reduction of birdsfoot trefoil establishment by other legumes.

Mixture	Trefoil plant/sq ft
Trefoil & Timothy.....	6-10
Trefoil & Alfalfa & Timothy.....	3-7
Trefoil & Red clover & Timothy.....	less than 1
Trefoil & Ladino & Timothy.....	less than 1

Source: Winch J. University of Guelph

better to use orchardgrass or bromegrass with alfalfa since these are earlier maturing grass species. Timothy can be mixed with the later maturing or "medium" varieties of alfalfa (Table 3).

Table 3. Suggested "compatible" species to use in forage mixtures.

legume species	Possible grass species
Alfalfa — early	Orchardgrass Bromegrass
— medium	Bromegrass Timothy
Red Clover	Bromegrass Timothy
Ladino Clover	Orchardgrass Bromegrass Timothy
Birdsfoot trefoil	Timothy Reed canarygrass Bromegrass

How many species in a mixture?

It was once thought that the more species there were in a forage mixture, the better was the mixture. It was not uncommon for there to be six or seven grasses and two or three legumes in some commercial mixtures. The idea behind these "complex" mixtures was that they would insure a good forage stand over a wide range of conditions. Unfortunately, relatively unproductive species such as Kentucky bluegrass or redtop ended up dominating the stands. Thus, money was spent on seed of species that may not have made any contribution to the productivity of the stand.

BEEF... IN GENERAL

I had the opportunity in late January to talk with one of Quebec's most knowledgeable beef men, Orance Mainville of Farnham. He has been in partnership since last May with Jan van Gennip who operates the province's second largest feedlot. A graduate of Laval University, Orance Mainville spent three years at Macdonald teaching in the Diploma program and working with DHAS. As he had always been interested in beef production he welcomed the opportunity to take on the responsibility of the largest feedlot operation in Quebec in St. Anicet. After six years in that position he felt that the next logical step was to move on and thus began his partnership with Mr. van Gennip. In two parts, Mr. Mainville discusses various sectors of the beef industry in general, and feedlots in particular.

Hazel M. Clarke

We have had a major slump in the beef industry because around 1972 too many people got too excited about beef. It was a highly profitable industry. We knew from our own and United States consumption that our production was going to be one of over-supply, but we thought that over-supply was going to disappear very fast to the international trade. We were going to start exporting cattle to Japan, the Communist countries, and so on. When the world's economical situation got tighter, largely owing to the price of fuel, things turned around very fast. We found that we had to live with our surplus, and we have had to do just that for the past three years.

It takes a long time to get rid of cattle that are on their four feet, and it takes a lot of pressure on a cattleman to make him decide that he has to cut down on his herd or even quit the business altogether. The only way you can have

that kind of pressure is to have very low prices, which is exactly what happened. We had to eat up the product and the only way was by having very cheap meat on the market. We are selling meat in the store right now at roughly the same price as it was in 1973. If you consider the rise in inflation since then, it's a real bargain.

I think that we have hit the bottom of the seven-year cycle that everyone talks about and are starting up, but the cycle is going to go up slowly. Because of low prices the consumer ate a good 12 pounds of meat more per year for the last two years. Beef consumption is very high — we are talking about 112 pounds of meat per person per year which two years ago was 100 and that was an increase from 95 pounds of a year or so before.

As our cycle starts going up so will prices and what is going to happen is normal. The consumer is going to hold back, thus cutting down on the consumption of red meat for awhile. Cutting down two or three pounds per person means a lot of cattle, and that is why I say the upswing will be slow.

More optimistically, our price is firm and a major issue for us is that the U.S. has cleaned up their situation. They are further ahead in terms of eating up the surplus meat that they had going through their marketing channels. United States beef fell three to six months before us, and they are ahead of us right now. Although U.S. imports affected us to a great extent in the past couple of years, now, with our dollar running around 90 cents, we are protected.

Our price of beef in the last year — our light cattle on the market has been 10 per cent higher than the States. Our biggest concern

is the fear that the dollar might go back to normal. It would pull down our price and we just can't take 10 per cent less right now.

Can Quebec Become Self-Sufficient in Beef?

There is no way that Quebec could become self-sufficient in beef. It could increase its position because the one we are in right now is not normal. We produce about 20 per cent of our requirements in red meat. We have a milk surplus, we are over our pork requirements by about 10 per cent and possibly some aspects of production could be switched to beef feedlots. We should be finishing some 200,000 head but it is going to take years before we can reach that figure. Our feedlot operations must be based on how well we can produce feed. The amount of feedlots that we can have in the East is limited to corn-producing areas, and these areas are limited. We should not consider finishing beef just to finish beef — that means importing grain from the West, which doesn't make sense economically. We should, however, increase because we are only producing two per cent of A1 and A2 type cattle, finished cattle. The consumer uses about 20 to 25 per cent B, C, and D type of meat — hamburger and processed meat — and we are producing close to and sometimes over-producing that type of meat because of the dairy business. We are only producing two per cent of the other 75 per cent of meat consumed.

Dairy Beef

The F₁ program is a thing of the past, and I do not believe that Quebec farmers derived much benefit from it. If we are going to

do some cross breeding, and I think we should on a small scale, we should be looking at the small English breeds. The small, fat type of cattle crossed with a Holstein which is a lean meat type of breed. This gives you a combination very acceptable to the consumer. It is nonsense to cross a lean meat type of dairy cow with another lean meat type — the Limousin, for example. The North American consumer is just not interested. We should be thinking of crossing with the breeds we have right here — Angus, Shorthorn, Hereford.

do not think, however, that we will build up a beef industry that is tied in closely with the dairy industry. Our cattle are specialized. We have taken the dairy animal and made it a specialized animal to produce milk; our beef animal is specialized to produce beef. Some will argue that we cannot afford to keep a cow that will only produce one calf a year, but there is a great deal of land in this country that is suitable only for cows or sheep. I think it is a good way to use that land. You take what comes off the land and you turn it into meat which is highly acceptable and highly in demand. There will always be a place for that sector of the industry, small though it may be. Although quite a few people involved in research don't agree, the dairy by-product, the male calf, is an area that should be looked into very seriously. I think it could be profitable. Take the calf out of the dairy herd and bring it up on a commercial basis to 400 or 500 pounds ready for the feedlot. It should be feasible but, unfortunately, the high rate of mortality and other problems prove that much more study needs to be done.

The alternative would be to raise those same calves in the dairy herd, but the dairyman is highly specialized. He gets a fair price for his product and doesn't want to be bothered with this kind of cattle. You only have to go to a public auction and you will realize that sometimes he doesn't even want to be bothered with the calf for two days. You cannot, therefore, ask him to look after it for

200 days, given any kind of money.

What runs the entire industry is the number of cows available. Quite possibly in the next few years we will have to look seriously at Holstein calves and all the crosses as we did with the F₁ program. We will put some in our feedlots and try to do the best we can and then, as conditions change, they will disappear from the market again as they have done now. None of these cattle are in today's feedlots.

Cow-Calf Operations

The cow-calf business has certainly had difficult years. There is no doubt that the feedlot industry has been hit, but the cow-calf man has really been hit. Fortunately, the government has brought in a few programs which are reasonably well organized, and as a result this sector is expanding right now. This may be contrary to the normal rules of supply and demand, but we must remember that we have a very small cow-calf industry in Quebec. The government, which has spent a great deal of money on the cow-calf industry, is trying to consolidate it, and I think they are coming along fairly well. As an example, since the milk industry has been consolidated, land in such areas as Abitibi and Lac St. Jean has become available and possibly cow-calf operations could be started or expanded there.

A serious problem and a major one in the cow-calf sector is, I think, one of quality. Of the 200,000 beef cows that we have, not more than 50 to 60 per cent of them go into a feedlot; the rest goes to the slaughter house because of lack of quality. They never reach the feedlot, and they never reach 1,000 pounds.

They go to slaughter at any weight because they are not good enough for anything else. We need programs to upgrade the quality of the cow-calf sector. Some small dairy farmers decided to switch to beef. They kept their cows and are upgrading their herds with

a beef type bull. It may be a good process but it is a very long one. Some old cows are still in the herd even after a couple of generations and you can see the bad effects. It is really sad to produce a calf that doesn't even meet the minimum requirements of a feedlot and has to be sent to market at 300 or 400 pounds, the same as D1 cows.

Specialized Beef

I think our major beef industry is going to have to be based on specialized beef-type cattle. In our own operation we buy straight breeds and beef crossbreeds. One that impresses me is the Charolais-Hereford cross which is coming on the market and they're choice — good quality, good calf. They make more money for the cow-calf man because the cow often weans a calf at 500 to 600 pounds. We are going to see more beef crossbreeds in the future because there is no doubt that there are many advantages.

Consumer prices will have to go up but there we may get some government reaction. The price of beef has a big effect on the consumer price index which is published every month. If there is a one per cent increase because of beef, this could turn the consumer against beef. Some people feel that food should be cheap all the time. Keep it cheap for 95 per cent of the population and never mind the few per cent that are in farming. What consumers have to realize is that we do not want prices so high that beef becomes inaccessible; they also have to understand that millions and millions of dollars have been lost in this industry over the last few years. We don't expect to get rich in the first year, but we would like to start recouping some of our losses. Many barns and equipment haven't been changed in the last few years because farmers could not afford it. The industry has to regenerate some profit in the next couple of years, and we hope that through good publicity this can be shown to the

consumer on a more positive basis than has been the case up until now. We don't know how to get around the problem of the consumer price index, but it has hurt our industry.

An increase in the price of beef

only reflects an increase in lots of production factors that are involved in beef. We are talking of fuel, of fertilizer, of equipment, of building materials. Put them all together and you end up with a slice of steak and that is what is taken to measure the consumer price index increase.

To repeat, I think the beef industry is on the way up and is not going to go back. The government is willing to put a lot of effort into developing the industry and I think farmers are interested in seeing it expand in Quebec.

FEEDLOTS...IN PARTICULAR

Compared to other farming enterprises in Quebec, feedlots are very young and very few. At present there are between 15 and 20 finishing around 8 to 10 thousand head of cattle, which is very low when we consider that our neighbours in the cornbelt areas of Ontario are finishing very close to one million head of cattle per year in similar conditions to those we have here. Most of our feedlots are in the Montreal area; a few are in the Ottawa Valley area. When we have more, we can get a slaughter house and then we will be in real business. One of our major problems is that we do not have a slaughter house in Quebec that specializes in cattle from feedlots — A1 and A2 quality cattle. The reason that there is no slaughter house is that there is not enough cattle of that quality. It is a vicious circle. Some feedlots have had to ship cattle to Toronto which, apart from other factors, costs money.

My partner, Jan van Gennip, came to Canada 22 years ago, started in dairy and then switched to beef eight years ago. His operation and the one I was working on before I joined him last May were the first two major feedlots in the province. We are running 700 head and would like to expand even more but we have to do it gradually. This business has been rough for the last three years. In terms of return on capital

in these years I would say that the best feedlot may have earned two per cent. You cannot afford to borrow money at 10 per cent, invest it and get two per cent out of it. You would go out of business eventually, which a few feedlots have done. Western feedlots fared even worse.

We have 275 acres and should be able to produce the maximum amount of corn silage to feed 1,000 head. In the next three to five years, I would say that it would be more economical to buy rather than grow your own grain. Grain production is in a cycling period and unless something drastic happens, grains should be inexpensive to buy, possibly less costly than we could produce them ourselves. This is a reverse situation from previous years.

We also want to use by-products with corn silage as much as possible. Apple pomace, potato wastes, and so on. Several small ones and at least one feedlot with 500 head are using poultry litter. This is an interesting aspect because it suggests the possibility of an integrated operation with say broilers and feedlot. There would always be a steady supply, it would save transportation costs and, of course, having to buy from someone else. We have used potato waste and at the present time are using apple pomace. Using these by-products in small amounts saves some silage.

We are using a large amount of high moisture corn that we buy from farmers in the fall. It is easily handled, works well in our feeding program, and is economical.

Jan van Gennip's major field is buying and selling; he is a professional cattle buyer, which is very important. Most of our cattle comes from Quebec although we buy from Ontario and to a lesser extent from the West. We buy from the specialized fall auctions that the provincial government has organized for feedlots. There are around 10 of these auctions and last fall about 15,000 head were sold. They expect more next year because the cow-calf sector in Quebec is expanding.

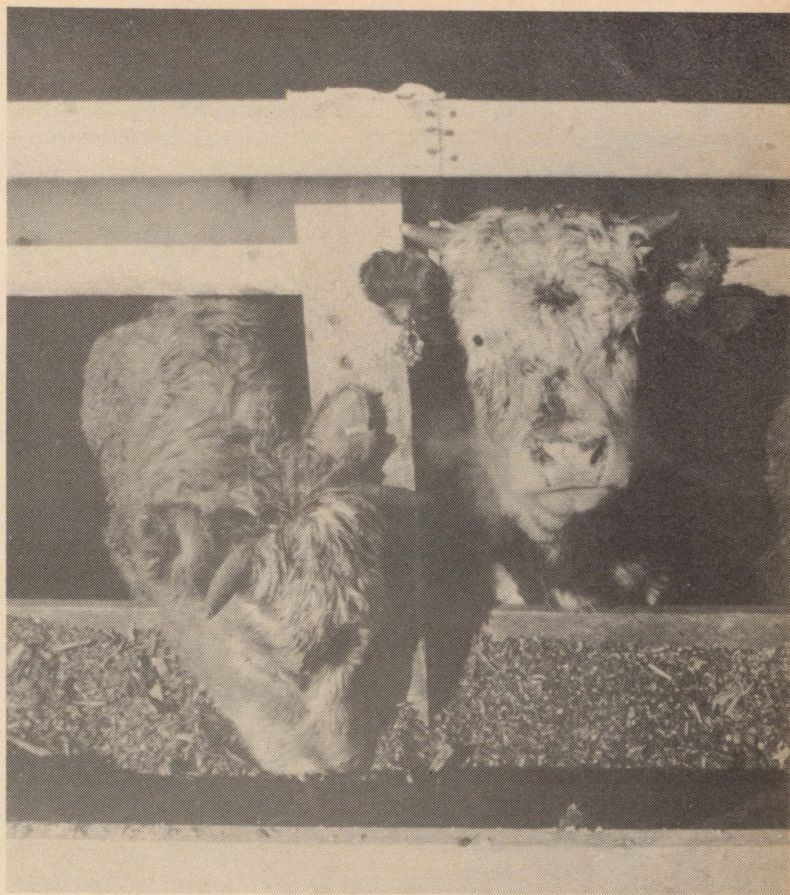
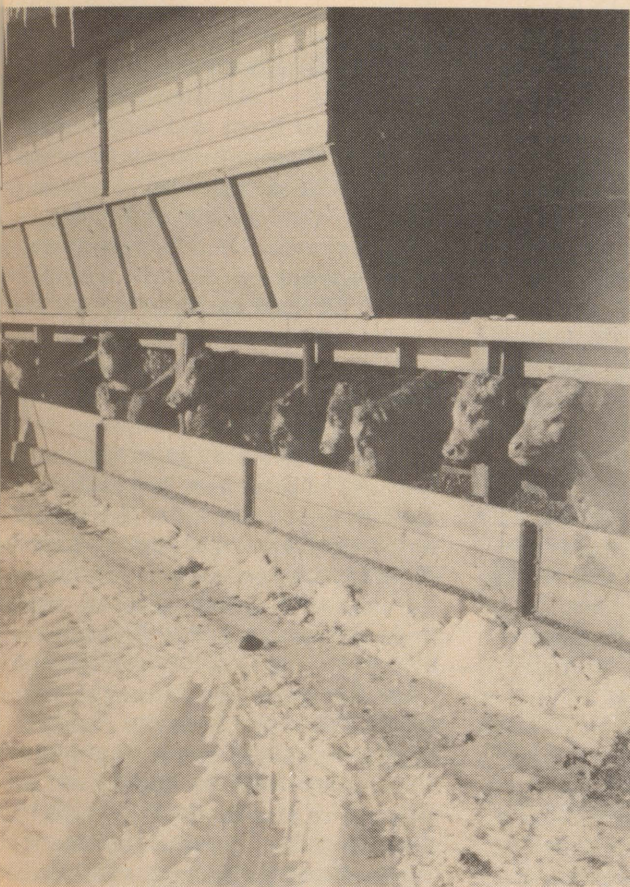
We buy calves weighing 400 to 500 pounds. These animals, born around March or April, are raised with their mothers all summer in the pasture and then are weaned in the fall and put in a feedlot. We run a calf at two pounds of gain per day. Normally the calf goes to market between 1,000 and 1,050 pounds which means we have it for 300 days. It is between 15 and 18 months of age. We buy in October and November, and by August they are sent to market. We also finish steers, 15-month-old animals weighing about 800 pounds. When this animal is weaned in the fall instead of sending him to a feedlot, he's wintered on hay, a bit

beel
d is m
ermin
of effi
stry as
terests
Quebe

e am
that
all. It
in our
omiza
or fie
is a
ver, r
ost of
bea
nd to
We
all au
ermin
Thes
ctio
head
e na
secto

ng. All
ma
are
sum
are
feed
is of
calf
100 an

of meal and gains about one pound
per day. He's put into good pasture
in the spring and when he comes
off the pasture in August or
September he weighs between 750
to 800 pounds. We buy that animal
and finish it. Instead of taking the
steer to 1,000 or 1,050 pounds we
go to 1,100 pounds because we like
to have a good finish on it. We try



On the cover, the barn in the background houses the calves; the one to the right is for steers — see close-ups.

of meal and gains about one pound
per day. He's put into good pasture
in the spring and when he comes
off the pasture in August or
September he weighs between 750
to 800 pounds. We buy that animal
and finish it. Instead of taking the
steer to 1,000 or 1,050 pounds we
go to 1,100 pounds because we like
to have a good finish on it. We try

for a gain of 2.5 pounds per day for
100 to 150 days. We run calves on
one cycle a year and steers on two.
We like to be able to put cattle
on the market on a steady basis
instead of having all our cattle
going to the market at the same
time. With the 700 head capacity
that we have, this gives us a chance
to run more than 1,000 head a year.
I have estimated that the rate of

gain in the feedlot costs
60 cents per pound; this includes
feed costs, yardage, and interest
on the dollar.

The aim of the feedlot is to make
the animals that we buy A1 or A2
cattle. Depending on the feedlot
and on the cattle some operators
come close to 100 per cent and
some only at 75 per cent. Normally

98 per cent of the cattle from good feedlots are A1, A2 quality. They are straight breeds and beef crossbreeds.

When feedlots first started in this part of the country, we had buildings with open yards and often outside feed bunks. The cattle stayed outside, ate outside, and slept under shelter. Our experience, especially in Quebec with the amount of precipitation that we have, the amount of time it takes to handle all the snow, as well as environmental concerns with 500, 1,000 and 1,500 head of cattle all in the same spot, suggests that we go to total confinement. The cattle should have a roof over their heads all the time. This cuts down on labour, fuel, and equipment costs. Eventually I think the buildings will have slatted floors — we will be investing more money in buildings and in manure handling systems, and I hope we can make enough to allow for these changes. All our manure goes on the land — we need it.

Disease is one of if not the most important concern in a feedlot operation. It may be worse in eastern Canada because of our humidity, especially as we are bringing in cattle in the worst months of the year — October and November. It is a rough period for them after being in pasture all summer. Disease should be the operator's main concern. You can get your feeding program adjusted by a specialist and follow that recipe, providing you have good feed. But you have to learn how to work with sickness, you have to have a good relationship with your veterinarian, and thus avoid losses. Some Quebec feedlots have suffered 10 per cent losses or higher, and you have to keep the death rate below two per cent to make a profit. This means highly qualified people to check your cattle and the right treatment at the right time.

An Economical Unit

In a family type of operation the prime factor that decides the size

of a unit is the equipment that is used for corn silage. This is fairly costly, highly specialized equipment, and therefore you have to produce enough to make it pay for itself. This is equipment that will produce at least 150 to 200 acres of corn silage a year, and that, under normal conditions, is 2½ head per acre. So we are talking of from 300 to 400 head. That's a basic economical unit for a family type operation and there are between 15 to 20 running 300 head or more.

The Quebec Feedlot Association

We started from scratch and formed the Quebec Feedlot Association two years ago. My partner, Jan van Gennip, is President; I am Secretary. At present we have 18 members which includes just about all the specialized feedlots in Quebec. We have been and still are very active. We are working on the problem of a slaughter house, we are looking for a marketing channel, we are trying to keep members informed, especially so that they will not compete unwisely on the market. Some of our other concerns are:

More Feedlots

With most of the producers in Quebec in the cow-calf sector of the industry, we should have more feedlots so that we could be using those calves instead of shipping them out of the province. But it has been difficult in the last three years to get a feedlot established because of the problems of selling cattle. Everyone has not had the opportunity to sell their cattle in Ontario.

Feed Prices

Ontario has become self-sufficient in grain — they are over-producing in corn. As a result the feedlots, which are situated in the cornbelt area, have access to cheap grain. As an example, last fall high moisture grain corn was bought in Ontario at \$45 a ton. This is fed to the cattle which are slaughtered in Ontario and

then sold as carcasses in Quebec. At the same time we pay \$65 a ton for the same grain. So for the last couple of years Ontario feedlot operators have been to some extent subsidized by the grain producers. We could, of course, buy that grain but we would have to pay transportation costs. Quebec, on the other hand, is not self-sufficient in grain — it is only producing about 30 per cent of requirements. We have to compete with Ontario producers — our market is accessible to them and vice versa. How long can we compete when feedlots in Ontario are expanding, flooding our market, and bringing down prices? We don't want more of an advantage, but we would like to be able to compete on the same basis.

Capital

Organizations that lend money to farming enterprises are not too well oriented towards the feedlot industry. Dairy and pork industries do not seem as risky for lenders, but we need a great deal of capital and just cannot get it. The man involved in a feedlot is different from the man who is involved in dairy. The dairy industry has a highly organized marketing system. Most dairy farmers don't even participate in the marketing — it is done by a few elected representatives through their marketing boards. The beef business cannot be adapted to that type of marketing system so we have to work much harder at buying and selling cattle. And the business of buying and selling cattle is the most important and the most difficult aspect of the feedlot industry. It is a completely different ball game. In the very near future we could have \$600 invested per head and if you are talking about 400 head, that's a quarter of a million dollars. Whereas in dairying the marketable commodity is limited to the size of the bulk tank.

There is still a great deal of work to be done to make the feedlot industry a success story in Quebec, but I, for one, see this as a young industry with a promising future and welcome the challenge.

Preparing Drainage Maps With the Help of Computers

by Drs. R. G. Murphy, R. Kok,
and R. S. Broughton,
Department of Agricultural
Engineering

Proper drainage is essential to the farmer who must obtain good crop yields from his land. For much of the farmland in Quebec a perforated pipe drainage system installed underground can lengthen the growing season by an average of three weeks. This increases crop yields and allows some longer season crops to be grown, which otherwise could not mature in this climate.

Installing effective drainage systems can be expensive and time-consuming. Field measurements and plan preparation cost about \$20 per acre. Traditionally, fields have been surveyed and soil measurements made a year or two in advance of the construction work. In order to plan the right positions for drain tubes, a topographic map must first be made of the field, showing in detail the elevations of the land, relative height, and location of hummocks, ridges and hollows, and the location of impediments such as rock outcrops, trees, and buildings. Surveying, recording, calculating, and plotting the survey data into a map, and drawing the contours of the land is a time-consuming process. When a large number of properties are being handled at the same time it can take many months to finish individual farms.

A Macdonald research team has cut this time down considerably. Dr. Raymond C. Murphy, a research associate, is streamlining a system developed in the Department using a computer to help produce the topographic maps. Data collected by the surveyors are entered into the computer which quickly

reduces them to coordinate form and prints out a spot elevation map. A part of one such map is pictured in Figure 1. Each number indicates the relative height of the land at that point, usually in feet above sea level. (For example, 100.8 indicates a point 100.8 feet above sea level.)

The relative height of various regions of the field is important for two reasons: (1) the drainage tubing must always follow a downward slope to allow excess water to run out; (2) the tubing must be laid deeper than 2.5 feet so that it will not be disturbed by farm machine operations, but not deeper than 5.5 feet so that it may be rapidly installed by drainage machines.

A computer mapping project was started in November 1975 by Professors Broughton and Kok of the Agricultural Engineering Department, with funding from the Quebec Ministry of Agriculture.

Much of the potentially fertile

Quebec farmland tends to be excessively wet, particularly during the spring. Large sections of fields in the St. Lawrence Lowlands may be completely submerged after the melting of the snow and following April rainstorms. Naturally this excess water takes some time to drain off. During this time the wetness and coldness of the soil inhibits germination and growth of crops and delays seedbed preparation work. The sun provides the heat and energy needed for growth during the months of April and May, but much of its energy can be lost evaporating excess water. Most crops need to be planted early in May to have sufficient leaf development to make good use of the solar energy available in June and July.

By installing drains in his field, a farmer can keep the water table low enough to make good use of the incident solar energy. The warmer, drier soil will lengthen the growing season at a crucial time. It will also support more weight, allowing the farmer to

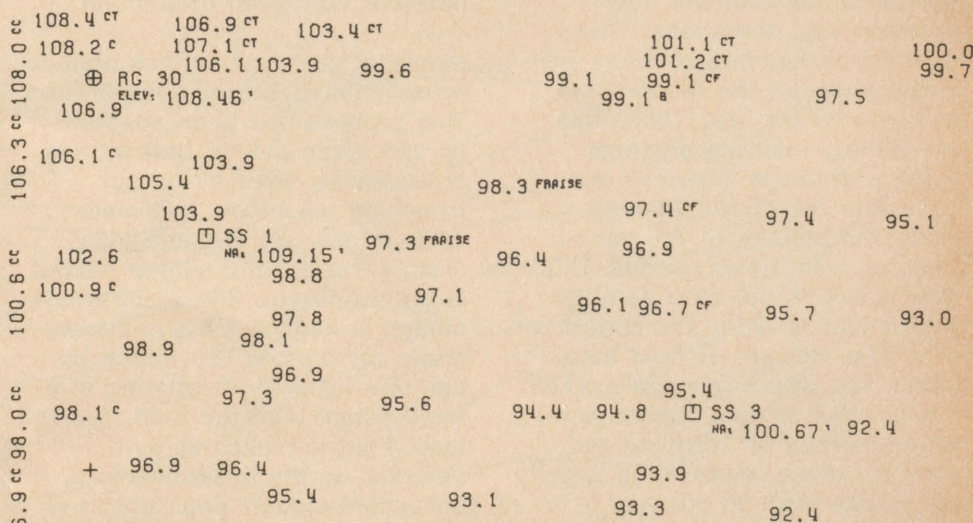


Fig. 1 - A portion of the Macdonald College campus shown in a computer-plotted topographic map. Besides the positions and elevations of the land, other features are indicated by symbols, e.g., C=a fence, Δ=an observation point, CT=a dirt road.

move heavy machinery onto it sooner to prepare the seedbeds. The installation of drains can add up to three weeks to the growing season. This not only increases yields, but also allows some crops to be grown which otherwise could not be. Improved drainage also helps to extend significantly the time available for use of harvest machinery and for autumn ploughing. On the whole, drainage systems have shown themselves to be cost effective in a number of ways, particularly in the flat regions of the province of Quebec and in the cultivated, undulating lands. Evidence of this is the rate at which farmers are installing drains now. Installations have increased from about 10,000 acres per year in 1967 to 90,000 acres per year in 1976. About one half of the cost of the drainage construction work is borne by the provincial government.

A farmer wishing to have a drainage system installed in a field usually approaches his local county agronomer, who makes arrangements for government assistance for the drainage work after determining from his regional maps whether drainage improvement is likely to be helpful on that particular piece of farmland. Then the planning process begins. A survey team takes topographic measurements on the farm. Using a transit or an engineer's level, the team measures the distances and angles which are then converted by manual calculations into positions and elevations. These are then plotted and contours are drawn showing the topographic character of the land. Using this preliminary map, an engineer designs drainage networks and computes the depth, spacing, slope and amount of the various sizes of drain tubes needed. This information is put on a detailed design plan to guide the contractor who does the actual field installation. The whole procedure takes a good deal of time, sometimes seven months for mapping and planning alone. Installation usually only takes place in the year following the soil measurements and topographic survey. Efforts are made to schedule the in-



Agricultural Engineering students surveying farm land.

stallations to interfere as little as possible with crop production.

In earlier years subsurface drains were installed in hand-dug trenches. This process has been speeded up and made easier, first by use of backhoes, then by use of trenching machines, and since 1970, by the use of trenchless drainlaying ploughs pulled behind large bulldozers. The drainlaying plough is kept at the appropriate grade for placing the tubing by use of a laser beam rotating at a fixed height over the field. The laser light is picked up by a detector on the hydraulically controlled plough. Electronic and hydraulic controls then adjust the plough up or down as the bulldozer moves forward along the prescribed

route for the drain line. Using this rugged yet sophisticated equipment it is now possible for a crew of five persons to install more than 20,000 feet of subsurface drain tubing in one nine-hour working day.

Thus, the installation of drains is a four-part operation: (1) the soil sampling to determine the drainage and fertility characteristics of the land, (2) the surveying and mapping, (3) the designing of a drainage system on the topographic map, and (4) the actual installation of the drainage tubing in the field.

Computerization of the map making has been introduced to reduce the time and cost involved in the initial stages of map production. A map such as that in Figure 1 takes about eight minutes to produce, once the data has been collected, keypunched and processed, whereas it would take several hours by hand. Completed 30" x 50" maps with hundreds of spot elevations can be drawn in about one hour by the computer controlled plotting machine.

Computerization will be even more significant as more electronic surveying equipment comes into use. Faster, and accurate over longer distances, this equipment will enable the survey team to double or triple its daily output. With automatic recording of the data in a computer-compatible code, the keypunching stage is eliminated, cutting down on the remaining obstacle to quick processing.

This past summer three Agricultural Engineering undergraduate students were involved in testing the system on a production basis. They collected information from a professional engineering company actually engaged in drainage planning, surveying work, and produced both first draft and edited final maps. A typical 30-acre Quebec field is approximately 4,000 feet long and 300 feet wide. It can be measured for drainage purposes with 100 survey shots. The students could key-punch this information in 40 minutes. Jobs usually consist of

contiguous fields belonging to the same farmer and once loaded into the computer a number of jobs could be processed consecutively.

Manual reduction of the field notes and plotting of the spot elevations takes about eight hours for 100 acres, if done carefully, four hours if done hastily and imprecisely, and one half to one hour using the computer system. Computer results are by far the most accurate and most presentable. If there are conflicts, the file of map information can be interactively edited. Final maps that are produced contain a number of additional features such as labels, legend, notes and title block.

Drs. Kok, Murphy, and Broughton are now concentrating on speeding up the input of survey data into the computer. The keypunching stage is the most time-consuming aspect of the mapping process. In the future they expect to include in their system surveying equipment capable of electronic recording and storage to eliminate the need for the keypunch operation.

Others plans for the current project include the drawing of contours using the computer. A contour map is one on which lines of constant elevation have been drawn (see Figure 2) making it easier for the drainage engineer to visualize the topography. While there are some contour-drawing computer programs available, the irregular spacing of the spot elevations has given difficulties in some of the techniques.

Testing is being carried out using several farm fields of differing topography as the basis for comparing different contouring program results among themselves, and against the true topography. In this way, a contouring method suitable for the agricultural purposes will be chosen. In the drainage planning business, all contouring as well as the map compilation, is now done by hand.

Ultimately it should be possible to have computer-aided drainage design, whereby the computer

could store the necessary topographic information and, given certain constraints on the slope and spacing of the drain tubes, actually draw the network of drains. A postgraduate student is now at work under the guidance of Professor Broughton on a program for semi-automated drainage planning.

The goal of the project is to develop a computerized drainage design system which can be used on a production basis. What makes the Macdonald system unique is that it is planned for use on an individual farm scale. It is designed

to be used in the office of a small engineering firm for drainage planning for farm areas from 50 to 500 acres. When the project is completed in March 1978, Drs. Murphy, Broughton, and Kok will present the Quebec Department of Agriculture with a report of their work in the form of an operating manual telling how the computer programs can be used. With this in hand it should be possible to speed up somewhat the drainage planning process and obtain more accurate plans at somewhat lower costs than by the more traditional system.

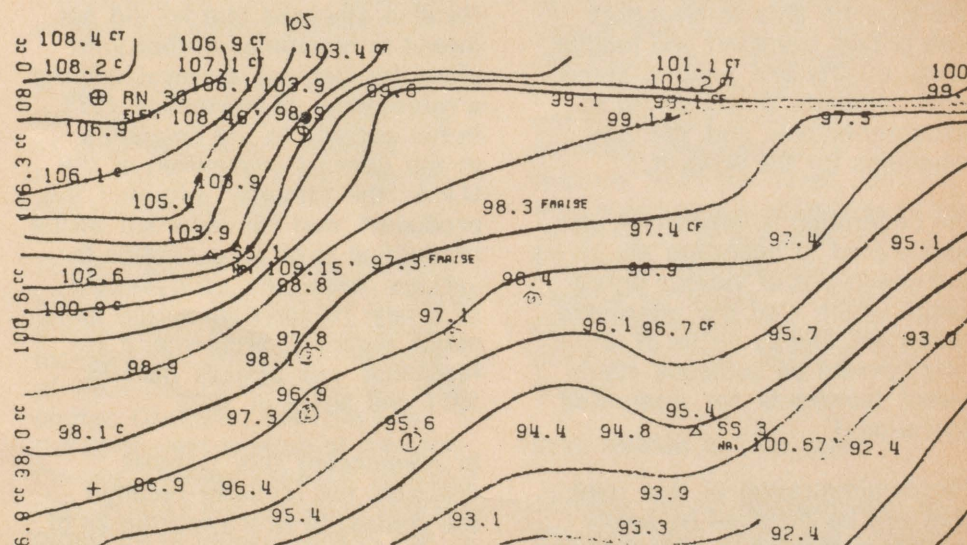


Fig. 2 - The same section of the Macdonald campus as pictured in Fig. 1, with the contours of the land drawn in.

The Family Farm



Published in the interests of the farmers of the province by the Quebec Department of Agriculture.



ADMINISTRATION OF THE JOINT PLAN ENTRUSTED TO THE "FÉDÉRATION DES PRODUCTEURS DE PORCS DU QUÉBEC" (UPA)

The provincial Cabinet accepted the recommendation of Jean Garon, Quebec Minister of Agriculture, to entrust to the "Fédération des producteurs de porcs du Québec", the administration of the joint plan contemplated by Order 2194 of the Quebec Agricultural Marketing Board.

This Cabinet decision amends the Order which recommended that the administration of a joint plan be entrusted to a producers' board having no direct relation to the "Union des producteurs agricoles". In the farming sector, a joint plan corresponds to a collective agreement for unionized workers. It is a legal mechanism whereby producers and buyers set down collectively the conditions for the sale of agricultural products.

The aim of a joint plan is to provide an orderly marketing of swine production both in and outside of Quebec. The Federation will thus be able to negotiate pork prices, transport and feedlot costs, quality and grading standards, methods of supplying slaughter-houses and delivery schedules for the product.

The Federation is henceforth also empowered to negotiate the terms and conditions of various agreements which bind the interested producers, and by virtue of which they operate on someone else's behalf (contracts for integrated operations).

The administration of this joint plan will be financed by swine producers through a contribution set by an Order of the Quebec

Marketing Board at 10 cents for each hog sold or delivered for slaughter. The annual assessment for producers who market hogs for purposes other than slaughter is set at \$10.

Swine, an exception

The Cabinet's decision signifies that the "Fédération des producteurs de porcs du Québec" will not be required to prove its representativeness again by means of a referendum before the plan is implemented.

The Minister pointed out, however, that the Order still provides for a survey of the producers contemplated, to be taken by the Board approximately two years after the implementation of the plan to determine if the majority of them wish to see the plan maintained as such, discontinued, or repealed.

He also stressed that he did not intend to recommend other joint plans for Cabinet approval without a referendum. In November, 1977, in his address to the delegates at the general convention of the U.P.A., the Minister informed the producers that he regarded swine production to be an exception for various reasons, e.g., the holding of a new referendum would pose major technical problems, a referendum was already held in 1971 and again in 1973.

In announcing this Cabinet decision, the Minister recalled the context in which section 26 of the Agricultural Marketing Act was passed by the National Assembly in 1974. First and foremost, this

provision applied solely to swine production and was intended as a special policy allowing the Quebec government to act quickly in the event of the formation of a national hog marketing agency.

This provision of the act sets down three conditions for instituting a joint plan without a referendum: namely, the urgency of the situation, the demands of public interest, and the technical and financial difficulties of holding a referendum. However, as regards the dozen or so applications for joint plans without referendum which are at present before the Agricultural Marketing Board, the Minister questions whether such applications comply with the requirements of section 26 of the Act.

"My position with respect to joint plans is clear and, hopefully, understood by all. There is an Agricultural Marketing Act which is applied by the Agricultural Marketing Board. Despite its flaws, this Act remains the only authorized mechanism for instituting joint plans," concluded the Minister.

Artificial Insemination

A Necessity For All Cattle Producers

Fully aware that genetic improvement is absolutely necessary for better productivity and increased profitability in dairy and beef cattle, the Quebec Department of Agriculture is trying to promote and generalize the use of artificial insemination by all cattle producers in Quebec.

to reach this aim, which implies maximum use of first class bulls kept at the Quebec Artificial Insemination Centre, the provincial Department of Agriculture is making efforts to assist producers by paying part of the cost of the first insemination and of subsequent ones performed with semen from cattle improvement clubs. These clubs, numbering approximately 85 and located in the various regions of the Province, are under contract to the Q.A.I.C. at St. Hyacinthe.

Conditions for Eligibility

Every farmer wishing to benefit by the artificial insemination program must be a member of a cattle improvement club which meets the five following conditions:

- the club must be incorporated in the Province of Quebec;
- it must be a member in good standing of the Quebec Association of cattle improvement clubs;
- it must be under contract to the Q.A.I.C.;
- the inseminators with the cattle improvement clubs are bound by contract to make two rounds on weekdays and at least one round on Sundays.
- the cattle improvement club must reimburse the inseminators' expenses incurred in attending information days and in-service training sessions organized by Q.A.I.C.

Cost of Artificial Insemination

The farmer pays \$4.50 for every first insemination regardless of his livestock improvement club. The Department's share of the cost of the first insemination varies according to distances covered and the cow population existing for the territory of each club. For every subsequent insemination, the farmer must

pay the sum of \$3 and this, irrespective of the cattle improvement club to which he belongs. The Department of Agriculture, for its part, contributes \$2 for each subsequent insemination.

Method of Payment

Upon verification of breeding certificates by the Q.A.I.C., all clubs under contract to it will receive a monthly cheque for the number of first inseminations and of subsequent inseminations performed by their inseminators. Each cattle improvement club will retain a sum of \$1.50 to \$2 for each insemination (depending on the distance and on the number of cows inseminated), and \$0.75

The Quebec Department of Agriculture Subsidizes 75 per cent of the construction of a regional grain centre at Ste-Rosalie

Jean Garon, Quebec Minister of Agriculture, has granted \$1,051,285 to the Ste. Rosalie Cooperative Agricultural Association towards the construction of a regional grain drying and storage centre. This offer is applicable to the first phase of the program of financial aid for grain storage, which was announced by Premier René Lévesque on October 21, 1977.

It will cover 75 per cent of the actual cost of construction of grain drying and storage installations with a capacity of one million bushels.

These installations must be used primarily for the storage of cereal grains grown in Region 6, which includes the provincial counties of Richelieu, Vercheres, St. Hyacinthe, Chambly, Iberville and the northwest section of Johnson County. Storage capacity permitting, priority will be given to grains produced in other areas of the Province, over imports from the western Provinces.

for each subsequent insemination in order to cover administrative costs.

Note, however, that if a farmer or a club does not comply with any one of these conditions of the program, the Quebec Department of Agriculture shall no longer be under obligation to pay its contribution to the club.

Further information on artificial insemination may be obtained from any local Agricultural Information Office or the Quebec Artificial Insemination Centre, P.O. 518, Saint-Hyacinthe, Quebec, J2S 7B8.

Ste. Rosalie was chosen as the site of Quebec's first grain storage elevator because of the interest shown in recent years by the farm producers of this region in the growing of cereals for silage.

Work is scheduled to start soon in an attempt to stimulate the regional economy and help create jobs during the winter months. Moreover, the construction of storage facilities will benefit the entire Quebec economy by reducing dependence on grain imports from the West. One of the Department's objectives is to increase to 50 per cent the Province's self-sufficiency in cereals for silage. At present, Quebec growers supply only 32 per cent of their needs in feed grains.

\$120 million in five years

Minister Garon revealed that in the next five years the Quebec program for the storage of cereal

grain will involve investments amounting to \$120 million.

Besides significantly decreasing the province's dependence on western grain, this program will have an important structural effect by permitting farmers to produce and use better quality feed grains. As a result, their livestock production should show a marked improvement. Moreover, the grain-drying installations will make it possible to spread out harvesting operations over larger periods and thereby result in greater profitability from harvesting equipment and fewer risks of losses owing to unfavourable weather conditions.

A Four-phase Program

Minister Garon pointed out that the Quebec program for grain storage consists of four distinct phases. First, through financial incentives, it promotes the creation of regional centres capable of providing the farmers of a given region with services in seed cleaning, and in the drying, storage, handling, and grading of grains.

A second phase of the program provides assistance for the building of medium-sized structures on grain farms.

A third-phase is for assistance for the construction of light storage units for grain produced on mixed farms (cereals and livestock), thereby enabling the farmers concerned to store their own grain production and to improve its quality.

Finally, the program provides for assistance for the installation of silos intended to promote the storage of forage crops, thus reducing grain needs and subsequently a dependence on outside markets.

Minister Garon also mentioned that his Department has begun negotiations with Quebec industrial firms in order to interest

them in the manufacture of grain drying, handling, and storage equipment. The program will thus have greater economic implications and help to create an important number of related jobs.

New Impetus to the Control of Noxious Weeds

Bill 13 which became law on August 24, 1977, amending the Agricultural Abuses Act, will give new impetus to the control of noxious weeds in the farming areas of the Province.

The Amendment introduced by this Act has reduced from 25 to 3 the number of signatures which are required from farming ratepayers to oblige a municipality to implement the provisions of the Agricultural Abuses Act. The amendment, which appears in section 7, third paragraph, requires all owners of land, lots or farms, whether cultivated or not, to destroy the weeds thereon before they go to seed.

According to Jean Garon, Quebec Minister of Agriculture, the said amendment will make this important decision of the Act operative once more. In fact, for all practical purposes, it is impossible in several municipalities to collect 25 signatures from farming ratepayers, owing to the significant decrease in the rural population witnessed in the past few decades.

The Minister also mentioned that the Agricultural Abuses Act empowers and, in the case of three farming ratepayers having submitted a written request, obliges a municipality to appoint one or more inspector(s) to study such a request. In the event of prolonged absence or refusal on the owner's part to conform to the advice of the inspector, the latter has the authority to have the weeds destroyed. The municipality will be able to include the cost of this operation in the next tax bill to the landowner concerned.

According to Mr. Garon, the proliferation of weeds owing to the neglect of abandoned farms or vacant lots constitutes, without doubt, one of the main threats to crop yields in Quebec. By allowing Quebec farmers easier access to protection already provided for by the Agricultural Abuses Act, Bill 13 will make it possible to increase the effectiveness of funds which are invested each year in the battle against weeds.

Perfect Attendance

Mrs. Nelson Pierce presented Mrs. William Robinson (Louise) with the Federated Women's Institutes of Canada pin in recognition of 42 years service to the Ayer's Cliff WI in Stanstead County. The amazing fact is that in all those years Mrs. Robinson has not missed a meeting or an activity of this branch and she has often attended county meetings. She has served the branch as Treasurer since 1945, over 32 years. What a record! Mrs. Robinson joined Ayer's Cliff on January 6, 1936. She became interested in the Institute after Mrs. Mort Leavitt (now deceased) gave her a Stanstead County WI cookbook as a bride's shower gift. After her marriage she joined WI and, after 20 years perfect attendance, was presented with a Life Membership, after 30 years, with a ring. Mrs. Robinson also has a 25-year bar.

Centennial Tea

That all liars are not members of the Liars Club was proven when a knowledgeable panel matched their stories against truth at the Hemmingford Women's Institute Centennial Tea held on October 9, 1977. The audience participated in a novel and enjoyable test of their knowledge of various antique items — the panel presented three versions of the identity of each of the 16 unusual antiques and the audience was invited to select the truth.

The choice was not easy, the panel members were versatile — some of the stories were preposterous but all very humorous. However the audience of about 70 people were well acquainted with the majority of the articles, but the panel caught them on a "beddie"



Mrs. Nelson Pierce, right, presented Mrs. Louise Robinson with an FWIC pin in recognition of 42 years of service to the Ayer's Cliff WI. In all those years Mrs. Robinson has not missed a meeting.

lamp, a lady's calling card case of embossed silver, an arrowhead, a disc chain, and a cylinder knife cleaner. The panel, who made the game so worth-while consisted of Mrs. Florence Caron, Mrs. Audrey Seale, and Mrs. Pauline Smith, strangers to each other, but who came graciously with very little notice. The game, based on almost forgotten programs of the Liars Club on radio and TV, was devised by Mrs. Gladys Woolley, assisted by Mrs. Marguerite Greer, and Mrs. Amy Reid

The owners of some of the articles displayed were: Mrs. Harriet Hawkins, Mrs. Helen Keddy, Mrs. Dorothy Campbell, Mrs. Florence Ellerton, Mrs. Elinor Hooper, Miss Dora Upton, Mrs. Marguerite Greer, Mrs. Florence Barr, Mrs. Amy Reid, Mrs. Elizabeth Blair, Mrs. G. Schimmelpfeng, Mrs. Jean Currie, Mrs. Margaret Keddy, Mrs. Edith Fisher, and Mrs. Audrey Seale.

WI members and others wore period dresses, and Mrs. Elizabeth Morgan and Mrs. Helen Wiley entertained with songs from memory lane. A poem "Our WI" was read by Mrs. Marguerite Greer, describing how one person became a member of the Institute and how much joining had enriched her life.

Everyone was served a piece of delicious Centennial Cake, baked by Mrs. Carol Petch and decorated by Mrs. Evelyn Shaw. The decorations on the cake were a miniature spinning wheel, and a miniature lady dressed in period style sitting at a table having tea!

The Centennial Tea replaced the autumn card party normally held by the Institute, and the proceeds will enable the Hemmingford Women's Institute to contribute to the Macdonald College Building Fund, as well as the usual projects, including Hemmingford School Fair.

Home Economics

Cooking is an art as well as a science, and a very worth-while hobby to develop. It is an exciting and a creative experience. Anyone who can follow simple directions can learn to cook, but to become a good cook takes practice in working with food. In the kitchen we should form good work habits in order to save time and energy.

More convenience foods or food prepared outside the home are being used by working mothers. The Food and Drug Administration has set up "standards of identity" for almost all of the canned vegetables and for some canned fruits. When shopping for canned foods, develop the habit of using the information on the label. This helps to get best table results from the food.

A Convener reported that an article had been read on "Health food products not above questioning." Cases of lead poisoning have been linked to people taking bone meal. People have more faith in health food store products, which are inadequately inspected. Regular food stores are better monitored.

At the 1977 Provincial Convention there were 76 articles in the J. and P. Coats and QWI Competitions. The needlework and workmanship were excellent, and I am looking forward to seeing more articles in the Competitions next spring. Missisquoi County had 14 entries, and they received 11 prizes. My congratulations go out to them.

Congratulations are in order to Mrs. M. Gibson, Stanstead County, for receiving 19.8 points on her socks at Expo Quebec. Mrs. J. Harvey, Missisquoi County, 19.3 for a sweater and 19.3 for socks. For Sherbrooke County: Mrs. Phyllis Hazard, 19.7 for a sweater, Miss E. Beaton, 19.4 for socks, and Mrs. E. Decoteau, 17 for a quilt. Quebec County's Mrs. Louise Feller received 19.2 points for a sweater.



At this time I would like to thank all of the WI members who took articles to the Handicraft Room for display; I do hope that you and other members will feel free to display more interesting handicrafts at our next Convention.

In our 1978 J. and P. Coats Competition Swedish weaving can be done on any material, if huck material is not available.

Thanks for your co-operation.

Your Home Economics Convener,
(Mrs. G. F.) Ruby Knights

A Memorable Outing

Howick Women's Institute's October meeting took the form of a trip to Earle Moore's Canadiana Village at Rawdon, Quebec. The members had invited friends to join with them to enable the ladies to charter a bus. The weather co-operated and the group was able to enjoy the beautiful fall scenery.

After a hearty lunch at the Grist Mill everyone visited the various homes and shops and enjoyed talking with the costumed hostesses. They were so hospitable and ready to share their knowledge of the history of their particular corner of Canadiana.

The final stop was at St. John's Church at Masonville, which had been originally built in 1849. Each visitor had her own special interest, but all agreed that meeting and talking with Mrs. Moore, her daughter, Mrs. MacDonald, and the people who helped them, made the day a happy and memorable outing for the Howick WI.

Thyra Tolhurst
Howick Publicity Convener.

Leeds Village 1802-1977

On a beautiful July 31st afternoon over 3,000 people gathered in the small town of Leeds Village to celebrate the 75th anniversary of the parish of St. Jacques de Leeds, and the 175th anniversary of the settling of the village and surrounding area. The committee in charge of the celebrations graciously invited the Megantic County Women's Institute to enter a float in the street parade, which culminated the week-long festivities. This invitation once again underscores the harmony in which we live in this country, and the respect in which the original Irish, Scottish, and English pioneers are held by the now predominantly French-Canadian inhabitants of the community, and the eager response on the part of their English-speaking neighbours was warmly gratifying.

Our float, a hay wagon, depicted the WI motto "Home and Country" and colours, blue and gold, was drawn by a smartly hitched team of draught horses owned and driven by a distinguished bearded gent (L. Allen) in a swallow-tailed coat and top hat. Aboard were seven WI members dressed in costumes of the early 1800s, and each depicted a household activity such as churning, knitting, winding wool, making soap, scrubbing clothes, and rocking a baby. All the while, enjoyable relaxing, music was being pumped out on an old family organ.

Following the parade refreshments were served to all who took part.

A lovely and memorable day was enjoyed by all.

Linda Robinson
Publicity Convener,
Megantic County

Craft Day

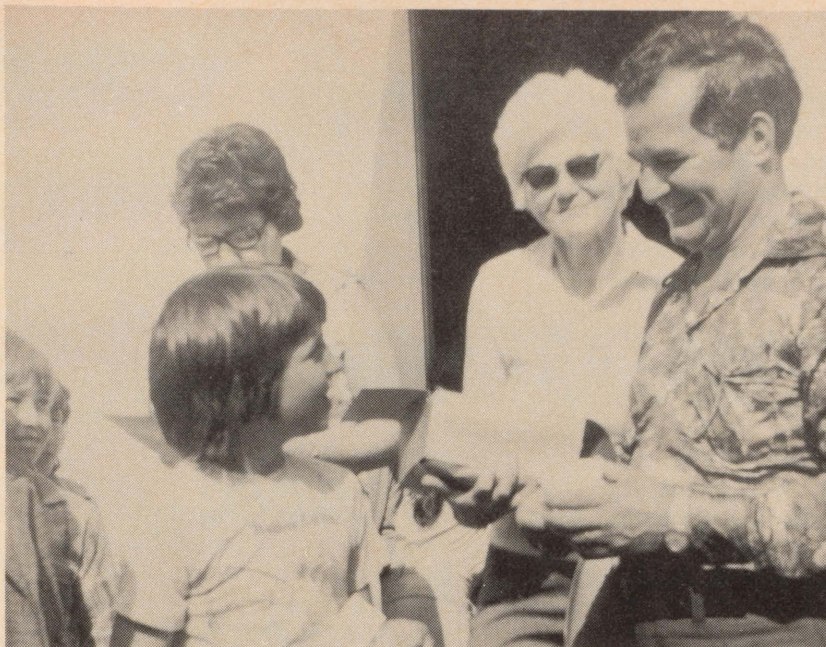
With fall fairs over and Christmas coming up it was no small wonder that **Lennoxville** decided to entertain another branch and have as well a real Craft Day.

Members from Hatley WI were invited as guests and for entertainment an excellent demonstration of ribbon flowers was given by Mrs. Tsai, a local resident who imports her material from China. She showed the process from the cutting of the petals to the finished flowers and had for display table arrangements, rose bowl arrangements in miniature, as well as corsages, etc.

To carry the craft theme further, members put on a craft and hobby show which included weaving, knitting, crocheting, various types of embroideries, stuffed toys, leatherwork, candles, sewing, and hand paintings. In the hobby show there were provincial flower-plates, scrap-books of WI work, souvenir spoons, violets, and old dolls as well as those from other countries. There was a great deal of interest shown in this display and it made for much discussion. This certainly testified that members are keeping up with both the old and the new crafts and that Canadian crafts are not on the wane.

At the tea hour a hand-made pin cushion was placed at each place by the Home Economics Convener. These were made and donated by members. It was a nice gesture to complete a pleasant day.

Mrs. O.M. Wallace,
Secretary,
Lennoxville WI



Mrs. E. Vautier and Mrs. B. Hayes look on as Michael Strigan receives ice cream from Mr. U. Landry at the Bonaventure county WI Fair.

Enjoying a Tour Close to Home

Two Chateauguay-Huntingdon County branches sent in interesting "specials". Each had toured the "Little Denmark Flower Shop" on Roxhan Road near Hemmingford which is owned by Leif and Norma Jacobsen. Hazel Robertson sent in the report for **Aubrey-Riverfield** and Mrs. Percy Sutton for **Franklin Centre**. As the members did not have too far to travel, Mrs. Sutton told us, "we could prepare and even eat dinner before leaving: a fact that most husbands appreciate as our community is made up of dairy farmers, fruit growers, and local businessmen who are at home for lunch."

Both ladies reported on the warm and cordial welcome they received from the Jacobsens, who have been doing floral arrangements and delivery for 16 years. "The genuine welcome lasted throughout a most interesting afternoon," Mrs. Sutton commented. Mrs. Robertson told us that Aubrey-Riverfield held their regular meeting in a room adjoining the shop. "Fourteen members and three guests answered the roll call by 'naming my favourite house plant'." She also told us that Mr. Jacobson and

Maria, one of the staff, answered many questions concerning the care of house plants and the different types of fertilizers to use.

The two branches enjoyed watching Mr. Jacobsen make floral centrepieces. Franklin Centre's was "of yellow and copper chrysanthemums from Leamington, Ontario, coloured oak leaves, dyed dried wheat, red carnations, and leather fern from Florida. "Then," Mrs. Sutton continued, "he made a tall floral arrangement with pink carnations, daisies, and ferns, standing two feet high and pretty indeed." Aubrey-Riverfield also saw Maria making up a terrarium. Names of members from both branches were drawn for floral gifts. Mrs. Sutton reported that one deserving member received a corsage of baby carnations which she gave to a neighbour who is having difficulty getting around.

Both groups enjoyed pastries and coffee or tea and then toured the area and, as Mrs. Robertson said, "several went on a buying spree — planters, hanging baskets, blooming geraniums, and bags of potting soil."

"We left with a real appreciation for folks who still dole out old-time hospitality. A most

appreciated and informative afternoon was enjoyed by all who participated." These sentiments by Mrs. Sutton were similar to those expressed by Mrs. Robertson and we thank both for sharing their tours with us.

Dear WI Members

Before I settled down to compile these monthly reports I glanced out the window. A cold January moon hangs high in the sky. The trees and the beautiful old house across the street are bathed in silver. We are in the very depth of winter. Someone wrote that winter is a blessing; we need to face its rigours and challenges so that we can appreciate better how marvellous life is. But this is for March, and we will be thinking of maple woodlots and seed catalogues.

Space again permits but brief mention of reports. The five branches in Stanstead County spread Christmas cheer in various ways — remembrances taken to sick and shut-ins. **Ayer's Cliff** was entertained by a group of young musicians, **Beebe** entertained senior citizens, **Hatley Centre** held a noon luncheon. **Brompton Road** held a neighbourhood Christmas concert. **Ascot** enjoyed a Christmas meal, **Milby** a party, **Lennoxville** gave money to two Homes. **Richmond Hill** prepared cheer baskets and **Spooner Pond** held their meeting at the Wales Home.

Here are highlights from January reports: A member read an article at **Dalesville-Louisa** on honeybees which stated that they were having a hard time at present. She explained how the lives of honeybees are endangered and how, as a necessary consequence, plant life will be affected. **Waterloo-Warden** discussed the possibility of making a quilt. At **Howick** Verna Buchanan, Citizenship Convener, reported that 260 knitted articles had been forwarded to CanSave in 1977.

This same branch received the first letter from their twin WI group at Cayley, Alberta. Mrs. Marion Alexander told about the life style of the area and the activities of the group. Howick's scrapbook will be updated and sent to Cayley.

The following is special news from **Stanbridge East**. Mrs. Beryl Tremblay was presented with a Life Membership and Certificate by Mrs. Clifford Richard, Vice-President. The latter received a Life Membership in 1977. Mrs. Tremblay was County Educational Convener until last year and gave her time freely, working with school fairs and encouraging others to join.

Two new members were added to the number at **Ascot**: Mrs. Marilyn Durrell and Mrs. R. D. Hutchison. The publicity convener read excerpts from Farmer's Poll on separatism in the Free Press Weekly. A lively discussion followed. One fact learned was that more love and understanding would help. **Ascot** will celebrate their 60th Anniversary in April. The **Belvidere** members attended a turkey supper at St. Georges Church in Lennoxville. **Brompton Road** members heard greetings from their President, Mrs. E. Decoteau, who is visiting in Arizona. The branch catered for the lunch after the death of a beloved member, Mrs. Herman Clark. Miss K. Atto, **Lennoxville**, read an interesting letter from her foster child in Korea. Mrs. E. Findlay spoke briefly on a young Canadian artist Glen Coats and showed some of his outstanding pictures. Mrs. H. Worster had the wool for the afghan for the upcoming Tweedsmuir Contest. Prior to the meeting the members attended the funeral service for Mr. Ralph Mosher in memory of Mrs. Mosher, a former member.

Recently, Mrs. C. E. Petch, **Hemmingford**, who had celebrated her 91st birthday, was remembered by a special cake prepared by Mrs. Joanne Hebert. Mrs. Petch

has an almost perfect WI attendance record and 55 years ago organized the WI in Hemmingford. At **Gore** Mrs. Janet Banfill of **Richmond Young Women** told about a St. John Ambulance course that she had taken. At a recent **Cowansville** meeting, Mrs. Wilma Schmeler, President of the District of Bedford Association for the Mentally Retarded, gave the history of the Association and stated that it is affiliated with the provincial, national, and international associations. Those on the Board of Directors are volunteers. At **Dunham**, Mrs. Marion Perkins told about the beginning and tradition of Bells, Books, and Candles.

Some of the Roll Calls were: **Fordyce**, bring an article from home that had been made in another country — one worthy of mention was a beautiful silk housecoat handmade with designs painted on it; **Upper Lachute East End**, name a grandmother's pastime; **Grenville**, name a place that you would like to go to — the most popular place was western Canada. **Spooner Pond**, tell of a project you are working on or will be this winter; **Granby Hill**, name a person in the news and tell why he or she appeared; then from **Brompton Road**, give twice your shoe size for Pennies for Friendship. Most branches reported donations to the latter and to CanSave.

Waterloo-Warden submitted this motto: The wishbone will never replace the backbone and **Gore**: Of all the things you wear, your expression is the most important. Then, I find depth and meaning in the following: There is a way of listening that surpasses all compliments.

Thank you for all the good wishes for 1978.

Gladys C. Nugent,
QWI Publicity.

QUEBEC PROVINCIAL PLOWING MATCH AND FARM MACHINERY DEMONSTRATIONS for 1978

**QUEBEC AGRICULTURAL RESEARCH STATION
DESCHAMBAULT**



OVERSEAS EMPLOYMENT OPPORTUNITIES

- Ag. Extension Workers for Colombia, Thailand, Ghana.
- Animal Scientist for Sierra Leone, Tanzania, Thailand.
- Soil Scientist for Botswana, Peru.
- Ag. Economists for Papua New Guinea, Tanzania.
- Ag. Science Teachers for Botswana, Papua New Guinea, Caribbean.
- Ag. Engineers for Bolivia, Ghana, Nigeria.

contact: CUSO Recruitment, 151 Slater, Ottawa, K1P-5H5
or Box 237, Macdonald College, P. Que. H0A 1C0



WHITE

Plant/Aire 5400

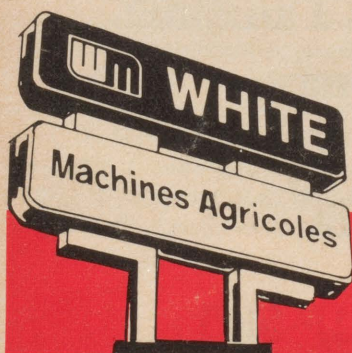
The simple planter that keeps your spring planting "on - schedule"

The proven White Plant/Aire has only two moving parts per row. Simple. It plants most seed varieties. Versatile. Plus it plants at high speed and with great accuracy. Plant/Aire comes with built-in seed monitoring system which warns you audibly and visually... instantly for planting job security.

The 543: Time tested reliability.



The White plate-type PLANTER that handles all the duties on your farm - Drills full seed variety - Distributes dry or liquid fertilizers - Applies granular or liquid herbicides.



SEE US TODAY ... AND STAY "ON SCHEDULE" THIS SPRING.



COOPÉRATIVE FÉDÉRÉE DE QUÉBEC

Farm Machinery Department · 1055 Central St. West, Montreal, Que. H2P 2W2